

REMARKS

The following Remarks are a full and complete response to the Office Action dated January 8, 2003. Claims 1, 2, and 4 are pending in this application. In the outstanding Office Action, claims 1, 2, and 4 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant's Admitted Prior Art in view of Shirakawa et al. (GB/2,302,451). In making this rejection, the Office Action asserts that the combination of these two references teaches and/or suggests each and every element of the claimed invention. The Office Action also asserts that the combination of these two references would be obvious to one of ordinary skill in the art. Applicant respectfully disagrees.

Claim 1, as amended, recites a mount structure for a thermal fuse on a circuit board. This structure includes a circuit board having a first surface where a predetermined circuit is formed and a second surface. A through opening is provided in the circuit board. The through opening joining the first and second surfaces. An electronic component is attached to the first surface of the circuit board to extend across the through opening. A thermal fuse is provided on the second surface of the circuit board to enter the through opening. This thermal fuse responds to the temperature of the electronic component via a heat-conducting insulating member filling the through opening for breaking the predetermined circuit. A through hole is provided in the circuit board. The thermal fuse is electrically connected to the predetermined circuit via the through hole.

Applicant's Admitted Prior Art illustrated in Figures 3A and 3B show that it was well known in the art at the time the invention was made to mount a thermal fuse 34 on the same surface of a circuit board 31 as electronic components 32. Thermal fuse 34 in these figures is thermally connected to electronic devices 32 with a heat-conducting insulating material such as silicon resin.

Applicant's Admitted Prior Art fails to teach the claimed invention since there is no teaching of the through opening with the thermal fuse and the electric components being arranged across the opening and on opposite sides of the circuit board. The Office Action cites Shirakawa as curing the deficiencies in Applicant's Admitted Prior Art.

Shirakawa discloses a multi-chip module with an enhanced degree of integration. As shown in Figs. 1 and 3, a recess 8 is located on one side of a laminate wiring board 3 having a predetermined thickness. A semiconductor device 2 is mounted in the recess 8 and sealed by resin 4. Another device 1 is mounted to cover the resin 4. It is seen from the above that this mounting structure is based on the technical idea that one device 2 and another device 1 are mounted on the same side of the wiring board 3 (technical idea A).

When the wiring board 3 is too thin and the recess cannot be formed in the wiring board, a through hole 9 is formed in the wiring board 3 as shown in Fig. 2. In this case, the device 2 is mounted in the thorough hole 9 by being vacuum-sucked from below (see page 7, lines 22-24 of the specification). This mounting structure for the device 2 is also based on technical idea A and wires 6 are located above the device 2.

Shirakawa is thus based on technical idea A for the mounting of device 2 throughout its disclosure. It is not disclosed nor suggested by Shirakawa that the device 2 is mounted in a through hole on one side of the wiring board 3 that is opposite to the side thereof on which another device 1 is mounted (technical idea B).

Moreover, Applicant's admitted prior art of the present application is also based on technical idea A for mounting of the thermal fuse and thus does not disclose nor suggest technical idea B.

The present invention employs technical idea B for mounting of the thermal fuse. Therefore, the present invention based on technical idea B is neither suggested nor disclosed by the combination of Shirakawa and the Applicant's admitted prior art. Therefore, the combination of Shirakawa and Applicant's admitted prior art fail to teach the claimed invention. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 1, 2, and 4 under 35 U.S.C. § 103(a).

CONCLUSION

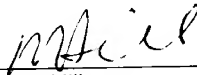
Applicant's' remarks have overcome the rejection set forth in the Office Action dated January 8, 2003. Specifically, Applicant's remarks have distinguished claims 1, 2, and 4 from the combination of Applicant's Admitted Prior Art and Shirakawa, and thus overcome the rejection of these claims under 35 U.S.C. § 103(a). Accordingly, claims 1, 2, and 4 are in condition for allowance. Therefore, Applicant respectfully requests consideration and allowance of claims 1, 2, and 4.

Applicant submits that the application is now in condition for allowance. If the Examiner believes the application is not in condition for allowance, Applicant respectfully

requests that the Examiner contact the undersigned attorney by telephone if it is believed that such contact will expedite the prosecution of the application.

In the event that any additional fees are due with respect to the filing of this paper, the undersigned authorizes the Office to charge any additional fees to our Deposit Account No. 01-2300, making reference to Docket No. 100806-00001.

Respectfully submitted,



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Enclosure: Petition for Extension of Time

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